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Claims

1. Database query set-up unit for combining a set of search criteria in order to set up a database query, **characterized by**
a contribution stack (1) for storing search criteria provided by at least one user or by the system itself in the order of occurrence, whereby each new search criterion provided by said at least one user or by the system is pushed onto said contribution stack (1), and
means (7, 9, 11) for deriving a current information state (8, 10, 12) from said contribution stack (1), whereby said current information state is formed from a subset of the set of search criteria contained in said contribution stack (1), and whereby said current information state (8, 10, 12) is used for accessing a database.

2. Database query set-up unit according to claim 1, **characterized in that** the order in which said search criteria are provided by said at least one user or by the system determines a hierarchy of dependencies between said search criteria.

3. Database query set-up unit according to claim 1 or 2, **characterized in that** each time a new search criterion is provided, it is checked whether said new search criterion refers to an attribute that has already been specified by an earlier search criterion stored in said contribution stack.

4. Database query set-up unit according to claim 3, **characterized in that**, in case said new search criterion refers to an attribute that has already been specified by an earlier search criterion stored in said contribution stack, said earlier search criterion is erased from said contribution stack, and said new search criterion is pushed onto said contribution stack.

5. Database query set-up unit according to claim 3, **characterized in that**, in case said new search criterion refers to an attribute that has already been specified by an earlier search criterion stored in said contribution stack, said earlier search criterion and all search criteria that have been pushed onto the contribution stack afterwards are popped from said contribution stack, and said new search criterion is pushed onto said contribution stack.

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6.   Database query set-up unit according to anyone of the preceding claims, **characterized by** means for relaxing the search constraints of a database query which suppress at least one of said set of search criteria contained in said contribution stack when said current information state is derived.

7.   Database query set-up unit according to claim 6, **characterized in that** said means for relaxing the search constraints of a database query select the search criteria to be suppressed according to the order of occurrence, and/or according to user profiles, and/or according to context information.

8.   Database query set-up unit according to claim 6 or 7, **characterized in that** at least the most recent search criterion stored in said contribution stack is suppressed when said current information state is derived.

9.   Database query set-up unit according to claim 6 or 7, **characterized in that** at least the oldest search criterion stored in said contribution stack is suppressed when said current information state is derived.

10.   Database query set-up unit according to anyone of claims 6 to 9, **characterized in that** search criteria that are suppressed when said current information state is derived are erased from said contribution stack.

11.   Database query set-up unit according to anyone of claims 6 to 9, **characterized in that** search criteria that are suppressed when said current information state is derived are only erased from said contribution stack when it turns out that the query yields a acceptable result.

12.   Database query set-up unit according to anyone of claims 6 to 9, **characterized in that** search criteria that are suppressed when said current information state is derived are maintained within said contribution stack.

13.   Database query set-up unit according to anyone of the preceding claims, **characterized in that** said search criteria are obtained by means of an interactive system based on an artificial language, preferably based

1   on a database query language.

14.   Database query set-up unit according to anyone of claims 1 to 12, characterized in that said search criteria are obtained from said at least

5   one user by means of a natural language dialogue system.

15.   Method for setting up database queries by combining a set of search criteria, characterized by the following steps:
- pushing search criteria provided by at least one user or by the system it-

10   self onto a contribution stack (1) in the order of occurrence;
- deriving a current information state (8, 10, 12) from said contribution stack (1), whereby said current information state (8, 10, 12) is formed from a subset of the set of search criteria contained in said contribution stack (1),

15   - setting up a database query corresponding to said current information state (8, 10, 12).

16.   Method according to claim 15, characterized in that the order in which said search criteria are provided by said at least one user or by the

20   system determines a hierarchy of dependencies between said search criteria.

17.   Method according to claim 15 or claim 16, further characterized by each time a new search criterion is provided, checking whether said new

25   search criterion refers to an attribute that has already been specified by an earlier search criterion stored in said contribution stack.

18.   Method according to claim 17, characterized by erasing said earlier search criterion from said contribution stack, and

30   pushing said new search criterion onto said contribution stack in case said new search criterion refers to an attribute that has already been specified by an earlier search criterion stored in said contribution stack.

19.   Method according to claim 17, characterized by

35   popping said earlier search criterion and all search criteria that have been pushed onto the contribution stack afterwards from said contribution stack, and pushing said new search criterion onto said contribution stack

1   in case said new search criterion refers to an attribute that has already been specified by an earlier search criterion stored in said contribution stack.

5   20.   Method according to any of claims 15 to 19, **characterized by** a step of

relaxing the search constraints of a database query by suppressing at least one of said set of search criteria contained in said contribution stack when said current information state is derived.

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21.   Method according to claim 20, **characterized by** a step of selecting the search criteria to be suppressed according to the order of occurrence, and/or according to context information, and/or according to user profiles.

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22.   Method according to claim 20 or 21, **characterized by** a step of suppressing at least the most recent search criterion stored in said contribution stack when said current information state is derived.

20   23.   Method according to claim 20 or 21, **characterized by** a step of suppressing at least the oldest search criterion stored in said contribution stack when said current information state is derived.

24.   Method according to anyone of claims 20 to 23, **characterized by** a
25   step of
erasing those search criteria from said contribution stack that have been suppressed when said current information state is derived.

25.   Method according to anyone of claims 20 to 23, **characterized by** a
30   step of
maintaining those search criteria within said contribution stack that have been suppressed when said current information state is derived.

26.   Method according to anyone of claims 15 to 25, **characterized by** a
35   step of
obtaining said search criteria by means of an interactive system based on an artificial language, preferably based on a database query language.

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1   27.   Method according to anyone of claims 15 to 25, **characterized** by a
step of
obtaining said search criteria from said at least one user by means of a na-
tural language dialogue system.

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28.   Computer program product, comprising computer program means
adapted to embody the features of the database query set-up unit as de-
fined in anyone of claims 1 to 14 or to perform the method steps as defined
in anyone of claims 15 to 27 when said computer program product is exe-

10   cuted on a computer, digital signal processor, or the like.

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